

**EVACUATION DEVICE:****CLAIMS:**

1. Device (1) for the evacuation of a chamber to pressures in the high vacuum range, consisting of a suction-side vacuum pump (2) and an atmospheric pressure-side vacuum pump (3); the suction-side vacuum pump (2) is formed as a mechanical-kinetic vacuum pump with a rotor (11) and a stator (10); the stator (10) has a rotationally symmetric inner surface, which is adapted to the outer geometry of the rotor; the rotor (11) of the mechanical-kinetic vacuum pump (2) is provided with a structure (13) effecting the gas conveyance; the structure effecting the gas conveyance consists of webs (14) whose pitch and width decrease from the suction side to the pressure side; the evacuation device (1) with the features above is characterized by the fact that the outer diameter of the rotor (11) and the inner diameter of the stator (10) of the suction-side

vacuum pump (2) also decrease from the suction side to the pressure side.

2. Device according to Claim 1, characterized by the fact that a hub (12) is a component of the rotor (11), said hub being formed to be cylindrical and bearing the webs (14).
3. Device according to Claim 1, characterized by the fact that a hub (12) is a component of the rotor (11), said hub bearing the webs (14) and being formed conically essentially in such a manner that its diameter increases from the suction side to the pressure side.
4. Device according to one of Claims 1 to 3, characterized by the fact that the lines, which represent the form of the outer diameter of the rotor (11) as well as the inner diameter of the stator (10) in a longitudinal section through the suction-side vacuum pump (2), run in the form of a curve arched inwards in such a manner that the slope of the curves, in a coordinate system in which the axis of rotation (15) forms the  $\chi$ -axis, decreases from the suction side to the pressure side.
5. Device according to one of Claims 1 to 3, characterized by the fact that the lines, which represent the form of the rotor hub (12) in a longitudinal section through the suction-side vacuum pump (2), are arched outwards in such a manner that their slope decreases from the suction side to the pressure side.

6. Device according to Claim 4 or 5, characterized by the fact that the arched lines have essentially the form of a hyperbola.